



UNITED STATES PATENT AND TRADEMARK OFFICE

lh

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,386	09/25/2003	Ching-Kun Lai	TS/20.002AUS	4262
20995	7590	06/15/2005	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP			DUONG, THOI V	
2040 MAIN STREET			ART UNIT	
FOURTEENTH FLOOR			PAPER NUMBER	
IRVINE, CA 92614			2871	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/671,386	LAI ET AL.	
	Examiner	Art Unit	
	Thoi V. Duong	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 ~~is~~are pending in the application.
- 4a) Of the above claim(s) 11-25 ~~is~~are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 ~~is~~are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of claims 1-10, 17 and 18 with traverse of the Election Requirement in the reply filed on March 28, 2005 is acknowledged. The traversal is found persuasive.

Accordingly, the election requirement on February 25, 2005 is withdrawn. The Examiner also agrees with a new restriction requirement proposed by Applicant as follows:

Species I: claims 1-10.

Species II: claims 11-15.

Species III: claims 16-25.

Since Applicant elected Species I and claim 16 is no longer a generic claim and belongs to Species III, claims 1-10 of Species I are considered in this office action and claims 11-15 and 16-25 of Species I and II are directed as non-elected invention.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Terunuma (USPN 5,537,177).

Art Unit: 2871

Re claim 1, as shown in Figs. 1 and 6, Terunuma discloses a frame structure of a liquid crystal module, said frame structure being adapted for fixedly securing a flexible printed circuit board 41 which is electrically connected to a liquid crystal display panel 22 (col. 6, line 41 through col. 7, line 14), said frame structure comprising a plurality of fasteners 42 (clip), each fastener including:

- a first clip piece (lower portion);

- a second clip piece (upper portion) arranged around said first clip piece; and

- a gap disposed between said first clip piece and said second clip piece,

Re claim 3, as to the product-by-process limitation "said frame is formed by integral injection molding" of claim 3, it has been recognized that "Even through product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process". *In re Thorpe*, 227 USPQ 964,966 (Fed. Cir. 1985). See also MPEP 2113.

4. Claims 4, 5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Shim (USPN 6,154,261).

As shown in Figs. 3 and 4, Shim discloses a frame structure 13 of a liquid crystal module, said frame structure being adapted for fixedly securing a control printed circuit board 14, said frame structure comprising:

a recess having a first edge 14a, a second edge 14b, a third edge 14c and a fourth edge 14d, said recess comprising:

a slot 15a on said first edge of said recess, for receiving said control printed circuit board 14 (col. 3, lines 55-61);

a plurality of protrusions on said second edge 14b, said third edge 14c and said fourth edge 14d of said recess, for fixing said printed circuit board in said recess 13 (Fig. 3); and

a plurality of resilient engaging pieces 16 (elastic snap) disposed on said third edge 14c, which is opposite to said first edge 14a, of said recess for engaging with said control printed circuit board (col. 4, lines 1-12).

Re claim 5, as shown in Fig. 4, a gap is disposed between said resilient engaging piece 16 and a body (sidewall) of said frame 13.

Re claim 7, as to the product-by-process limitation "said frame is formed by integral injection molding" of claim 7, it has been recognized that "Even through product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process". *In re Thorpe*, 227 USPQ 964,966 (Fed. Cir. 1985). See also MPEP 2113.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terunuma (USPN 5,537,177) in view of Shim (USPN 6,154,261).

As shown in Figs. 1 and 6, Terunuma discloses a frame structure of a liquid crystal module, said frame structure being adapted for fixedly securing a flexible printed circuit board 41 which is electrical connected to a liquid crystal display panel 22, and for fixing securing a control printed circuit board 20 electrically connected to said flexible printed circuit board 41, said frame structure comprising:

a plurality of fasteners 42, each fastener including:

a first clip piece (lower portion);

a second clip piece (upper portion) arranged around said first clip piece; and

a gap disposed between said first clip piece and said second clip piece.

However, Terunuma does not disclose a recess comprising a slot, a plurality of protrusions and a plurality of resilient engaging piece as recited in claim 8.

As shown in Figs. 3 and 4, Shim discloses a frame structure 13 (substrate coupling structure) of a liquid crystal module, said frame structure being adapted for fixedly securing a control printed circuit board 14, said frame structure comprising:

- a recess having a first edge 14a, a second edge 14b, a third edge 14c and a fourth edge 14d, said recess comprising:

- a slot 15a on said first edge of said recess, for receiving said control printed circuit board 14 (col. 3, lines 55-61);

- a plurality of protrusions on said second edge 14b, said third edge 14c and said fourth edge 14d of said recess, for fixing said printed circuit board in said recess 13 (Fig. 3); and

- a plurality of resilient engaging pieces 16 (elastic snap) disposed on said third edge 14c, which is opposite to said first edge 14a, of said recess for engaging with said control printed circuit board (col. 4, lines 1-12).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the frame structure of Terunuma with the coupling structure of Shim to securely mount the control printed circuit board in the frame structure, and enhance product yield due to simplification of fabrication (col. 1, lines 14-19 and col. 4, lines 13-16).

Re claim 10, as to the product-by-process limitation "said frame is formed by integral injection molding" of claim 10, it has been recognized that "Even through product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not

depend on its method of production. If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process". *In re Thorpe*, 227 USPQ 964,966 (Fed. Cir. 1985). See also MPEP 2113.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terunuma (USPN 5,537,177) in view of Yamatani et al. (Yamatani, USPN 6,295,103 B1).

Terunuma discloses a frame structure that is basically the same as that recited in claim 2 except for the frame being made of plastic.

As shown in Fig. 2, Yamatani discloses a printed circuit board 37 (drive circuit substrate) and a frame structure 32 formed of plastic to protect the electronic parts of the printed circuit board 37 from the heat by shielding the heat which might otherwise be transferred to the liquid crystal element, the light source and the printed circuit board (col. 8, lines 35-45).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the frame structure of Terunuma with the teaching of Yamatani by forming the frame of plastic which has a relatively low heat conductivity so as protect the electronic parts of the printed circuit board from the heat (col. 8, lines 40-45).

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shim (USPN 6,154,261) in view of Yamatani et al. (Yamatani, USPN 6,295,103 B1).

Shim discloses a frame structure that is basically the same as that recited in

claim 6 except for the frame being made of plastic.

As shown in Fig. 2, Yamatani discloses a printed circuit board 37 (drive circuit substrate) and a frame structure 32 formed of plastic to protect the electronic parts of the printed circuit board 37 from the heat by shielding the heat which might otherwise be transferred to the liquid crystal element, the light source and the printed circuit board (col. 8, lines 35-45).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the frame structure of Terunuma with the teaching of Yamatani by forming the frame of plastic which has a relatively low heat conductivity so as protect the electronic parts of the printed circuit board from the heat (col. 8, lines 40-45).

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terunuma (USPN 5,537,177) in view of Shim (USPN 6,154,261) as applied to claims 8 and 10 above and further in view of Yamatani et al. (Yamatani, USPN 6,295,103 B1).

The frame structure of Terunuma as modified in view of Shim above includes all that is recited in claim 9 except for the frame being made of plastic.

As shown in Fig. 2, Yamatani discloses a printed circuit board 37 (drive circuit substrate) and a frame structure 32 formed of plastic to protect the electronic parts of the printed circuit board 37 from the heat by shielding the heat which might otherwise be transferred to the liquid crystal element, the light source and the printed circuit board (col. 8, lines 35-45).

Art Unit: 2871

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the frame structure of Terunuma with the teaching of Yamatani by forming the frame of plastic which has a relatively low heat conductivity so as protect the electronic parts of the printed circuit board from the heat (col. 8, lines 40-45).

Conclusion

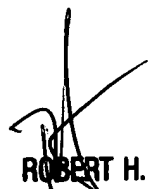
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (571) 272-2293.

Thoi Duong



06/08/2005



ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800